JOURNAL OF
Colloid and Interface Science

EDITORS-IN-CHIEF

Milton Kerker
Clarkson College of Technology
Potsdam, New York

A. C. Zettlemoyer
Lehigh University
Bethlehem, Pennsylvania

ADVISORY BOARD

M. P. Aronson
Tarrytown, New York

M. Blank
New York, New York

H. F. Eicke
Basel, Switzerland

S. Friberg
Rolla, Missouri

H. L. Frisch
Albany, New York

M. Hair
Mississauga, Canada

R. J. Hunter
Sydney, Australia

J. L. Kassner, Jr.
Rolla, Missouri

J. Leja
Vancouver, Canada

P. Mukerjee
Madison, Wisconsin

M. Muramatsu
Sagamihara, Kanagawa-Ken, Japan

B. W. Ninham
Canberra, Australia

B. A. Pethica
Potsdam, New York

P. Plummer
Rolla, Missouri

J. Seinfeld
Pasadena, California

P. Sherman
London, England

A. Vrij
Utrecht, The Netherlands

J. Wightman
Blacksburg, Virginia

Victor K. La Mer, Founding Editor
(1895–1966)

Volume 78

1980

ACADEMIC PRESS
A Subsidiary of Harcourt Brace Jovanovich, Publishers
New York London Toronto Sydney San Francisco

Copyright © 1980 by Academic Press, Inc.
All rights reserved

No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopy, recording, or any information storage and retrieval system, without permission in writing from the copyright owner.

The appearance of the code at the bottom of the first page of an article in this journal indicates the copyright owner's consent that copies of the article may be made for personal or internal use, or for the personal or internal use of specific clients. This consent is given on the condition, however, that the copier pay the stated per copy fee through the Copyright Clearance Center, Inc. (21 Congress Street, Salem, Massachusetts 01970), for copying beyond that permitted by Sections 107 or 108 of the U. S. Copyright Law. This consent does not extend to other kinds of copying, such as copying for general distribution, for advertising or promotional purposes, for creating new collective works, or for resale. Copy fees for pre-1980 articles are the same as those shown for current articles.

MADE IN THE UNITED STATES OF AMERICA

Contents of Volume 78

NUMBER 1, NOVEMBER 1980

W. SMIT AND C. L. M. HOLTEN. Zeta-Potential and Radiotracer Adsorption Measurements on EFG α-Al_2O_3 Single Crystals in NaBr Solutions 1

K. W. T. GOULDING AND O. TALIBUDEEN. Heterogeneity of Cation-Exchange Sites for K–Ca Exchange in Aluminosilicates 15

J. CZARNECKI AND T. DABROŚ. Attenuation of the van der Waals Attraction Energy in the Particle/Semi-infinite Medium System Due to the Roughness of the Particle Surface 25

M. P. MCDANIEL AND T. D. HOTTOVY. Total Porosity of High-Pore-Volume Silicas by Liquid Adsorption 31

TOHRU TAKENAKA AND KAZUFUMI YAMASAKI. Polarized Resonance Raman Spectra of Adsorbed Thin Layers at the Glass–Water Interface 37

J. J. MARTIN, P. K. WANG, AND H. R. PRUPPACHER. A Theoretical Study of the Effect of Electric Charges on the Efficiency with Which Aerosol Particles Are Collected by Ice Crystal Plates 44

MANABU SENŌ, KIYOSHI SAWADA, KOJI ARAKI, KAZUTOSHI IWAMOTO, AND HIDEO KISE. Properties of Water in Hexadecyltrimethylammonium Bromide/Chloroform System 57

G. F. CEROFOLINI AND M. CEROFOLINI. Heterogeneity, Allostericity, and Hysteresis in Adsorption of Water by Proteins 65

YOLANDE HENDRIKX AND DANIEL MARI. Sodium Docosyl Sulfate Monolayers at Liquid–Air Interfaces: Counterions Effect 74

ARTHUR R. DEEMER, JING-DEN CHEN, MADHUKAR G. HEGDE, AND JOHN C. SLATTERY. Measuring Liquid–Liquid Interfacial Behavior with the Deep-Channel Surface Viscometer 87

T. M. EL-AKKAD. Effect of Addition of Water-Soluble Polymers on the Surface Properties of Titania Gel (Anatase) 100

OLLE SÖDERMAN, SVEN ENGSTRÖM, AND HÅKAN WENNERSTRÖM. Alkali Counterion Binding Specificity in Lamellar Liquid Crystals 110

CHARLES MALDARELLI, RAKESH K. JAIN, IVAN B. IVANOV, AND ELI RUCKENSTEIN. Stability of Symmetric and Unsymmetric Thin Liquid Films to Short and Long Wavelength Perturbations 118

JENS FEDER AND IVAR GIAEVER. Adsorption of Ferritin 144

PARAM H. TEWARI AND ALLAN B. CAMPBELL. The Role of Uranium(VI) in the ThO_2–UO_3 Sol–Gel Process 155

MICHAEL A. DELICHATSIOS. Particle Coagulation in Steady Turbulent Flows: Application to Smoke Aging 163

JOHN J. BLADON. Adsorption of Aqueous *m*-Alkyl Carboxylic and Dicarboxylic Acids onto Hydroxyapatite Simulated by a Lattice Adsorption Model 175

JARL B. ROSENHOLM, THOMAS E. BURCHFIELD, AND LOREN G. HEPLER. Thermodynamics of Micelle Formation: Standard States, Temperature Dependence of the Critical Micelle Concentration, and Thermal Expansion of the Solvent 191

SHIGEYOSHI MIYAGISHI AND MORIE NISHIDA. NMR Study about Solubilization of Phenyl Alkyl Alcohol in Sodium Dodecyl Sulfate Micelle and in Brij 35 Micelle 195

F. M. FOWKES, D. C. MCCARTHY, AND M. A. MOSTAFA. Contact Angles and the Equilibrium Spreading Pressures of Liquids on Hydrophobic Solids 200

YOSUKE TAKASAWA, MINORU UENO, AND KENJIRO MEGURO. Effect of Polyoxyethylene Chain Length upon Mixed Surfactant Solutions and Temperature Dependence on the Surface Tension 207

Rhoda Elison Hirsch, Danek Elbaum, Seymour Steven Brody, and Ronald L. Nagel. Oxyhemoglobin A and Oxyhemoglobin S Films at an Air–Water Interface: Absorption Spectra Studies 212

Ali Khan, Olle Söderman, and Göran Lindblom. Phase Diagram of the Octylammonium Fluoride–Heavy Water System and Counterion Binding as Studied by ^{19}F NMR ... 217

P. D. Bisio, J. G. Cartledge, W. H. Keesom, and C. J. Radke. Molecular Orientation of Aqueous Surfactants on a Hydrophobic Solid 225

Notes

Donald L. Peterson. Sorption of Nitrogen in Zeolite NaA at Ambient Temperatures ... 235

Lynn S. Penn and Bernard Miller. A Study of the Primary Cause of Contact Angle Hysteresis on Some Polymeric Solids 238

C. Ballario, A. Bonincontro, C. Cametti, and A. Di Biasio. Dielectric Properties of Water–Cellulose System at Microwave Frequencies 242

R. M. Pashley. Multilayer Adsorption of Water on Silica: An Analysis of Experimental Results 246

S. I. Chou and D. O. Shah. The Droplet Size in Oil-External Microemulsions Using the Membrane Diffusion Technique 249

J. W. Goodwin, R. H. Ottewill, N. M. Harris, and J. Tabony. A Study by Small-Angle Neutron Scattering on the Swelling of Polystyrene Latex Particles by Monomer 253

Ali Boussaha and Hans J. Ache. Microemulsion Formation in Sodium Stearate–Alcohol–Hexadecane–Water Mixtures: Studies by Positron Annihilation Techniques ... 257

J. N. Israelachvili, E. Perez, and R. K. Tandon. On the Adhesion Force between Deformable Solids 260

Abraham Marmur and Michael D. Lelah. The Dependence of Drop Spreading on the Size of the Solid Surface 262

Toshiro Suzawa and Takashi Murakami. Adsorption of Bovine Serum Albumin on Synthetic Polymer Latices 266

D. A. Cadenhead and F. Müller-Landau. Molecular Accommodation and Molecular Interactions in Mixed Insoluble Monomolecular Films 269

G. T. Barnes, I. S. Costin, D. S. Hunter, and J. E. Saylor. On the Measurement of the Evaporation Resistances of Monolayers 271

Letters to the Editors

B. V. Derjaguin, V. V. Karasev, and E. N. Khromova. Thermal Expansion of Ordinary and Heavy Water in the Pores of Titanium Dioxide 274

A. M. Bellocq and G. Fourche. Micellization Study of Two Microemulsion Systems by Rayleigh Scattering 275

E. Ruckenstein. Correction and Comments on the Paper, "The Equilibrium Radius of Microemulsions Formed with Ionic Surfactants" 279

Book Reviews 280

Obituaries 281

Announcement 287

Number 2, December 1980

P. Gutkowski, J. Haber, and J. Pawelek. Influence of Lysolecithin on Surface Properties of Dipalmitoyl Lecithin Monolayer 289

Herbert Harttig and Klaus J. Hüttinger. Modification of Wettability of Carbon by Grafting Reactive Surfactants 295

R. Edwards and P. R. Rutter. The Adsorption of Bovine Serum Albumin and Dextran D250 at the Solid–Liquid Interface 304

A. K. van Helden and A. Vrij. Static Light Scattering of Concentrated Silica Dispersions in Apolar Solvents 312

R. Zana. Ionization of Cationic Micelles: Effect of the Detergent Structure 330

Nagamune Nishikido, Nobuyoshi Yoshimura, Mitsuru Tanaka, and Shoji Kaneshina. Effect of Pressure on the Solution Behavior of Nonionic Surfactants in Water 338

Piero Baglioni, Gabriella Gabrielli, and Giulio G. T. Guarini. On the Mechanism of Collapse of Monolayers of Macromolecular Substances. II. Cellulose Acetate 347

Tetsuo Morimoto and Shigeharu Kittaka. Spherical Particles and Their Surface Properties. II. Preparation of Spherical Particles of Titanium Dioxide 356

Cristina Del Cerro and Graeme J. Jameson. The Behavior of Pentane, Hexane, and Heptane on Water 362

Noriaki Funasaki and Sakae Hada. Electrostatic Effects on Comicellization of Fluorocarbon and Hydrocarbon Surfactants 376

Ömer Z. Cebeci. The Intrusion of Conical and Spherical Pores in Mercury Intrusion Porosimetry 383

Anthony J. I. Ward and Liam H. Regan. Pendant Drop Studies of Adsorbed Films of Bovine Serum Albumin. I. Interfacial Tensions at the Isooctane/Water Interface 389

Anthony J. I. Ward and Liam H. Regan. Pendant Drop Studies of Adsorbed Films of Bovine Serum Albumin. II. Film Compressibility at Oil/Water Interfaces 395

Lucy S. C. Wan. The Limiting Solubilizing Capacity of Some Nonionic Surfactants 401

Richard J. Kuo and Egon Matijević. Particle Adhesion and Removal in Model Systems. III. Monodispersed Ferric Oxide on Steel 407

K. P. Das and D. K. Chattoraj. Adsorption of Proteins at the Polar Oil–Water Interface 422

J. N. Israelachvili, R. K. Tandon, and L. R. White. Measurement of Forces between Two Mica Surfaces in Aqueous Polyethylene Oxide Solution 430

Frank G. Smith III and William M. Deen. Electrostatic Double-Layer Interactions for Spherical Colloids in Cylindrical Pores 444

David Charles Thomas and Sherril D. Christian. Micellar and Surface Behavior of Sodium Deoxycholate Characterized by Surface Tension and Ellipsometric Methods 466

Masao Nakamura and Kenji Uchida. Thinning Phenomena of the Dimple between a Horizontal Glass Plate and an Air Bubble in Water 479

Fred Gelbard and John H. Seinfeld. Simulation of Multicomponent Aerosol Dynamics 485

Howard L. Brockman, Craig M. Jones, Curt J. Schwebke, Janice M. Smaby, and Dale E. Jarvis. Application of a Microcomputer-Controlled Film Balance System to Collection and Analysis of Data from Mixed Monolayers 502

Peter H. McMurry. Photochemical Aerosol Formation from SO_2: A Theoretical Analysis of Smog Chamber Data 513

Robert A. Brown and L. E. Scriven. On the Multiple Equilibrium Shapes and Stability of an Interface Pinned on a Slot 528

D. G. Lewis and U. Schwertmann. The Effect of [OH] on the Goethite Produced from Ferrihydrite under Alkaline Conditions 543

Samiullah Khan and Vinod Bansal. Thermodynamics of Adsorption of Methyl-2-(dimethylamino)-*N*-[{(methylamino)carbonyl}oxy]-2-oxoethanimidothioate on Saturated Cu- and Zn-Montmorillonites 554

Notes

Zbigniew Adamczyk. Deposition of Particles onto the Rotating Disk under Transient Conditions 559

S. B. Bhise, M. N. A. Rao, and R. C. Srivastava. Amylase Activity in the Presence of Bile Salts 563

C. Manohar, V. K. Kelkar, and J. V. Yakhmi. Evidence of Bilayer Structure in Colloid Flotation of Iron Hydroxide Using Sodium Lauryl Sulfate 565

G. E. A. Aniansson and S. N. Wall. Comments on "The Dissolution of Micelles in Relaxation Kinetics" by Gerson Kegeles 567

Announcement 569

Author Index for Volume 78 570

Cumulative Subject Index for Volumes 73–78 572